Benefits of Trees

Trees impart a distinctive character and identity to the City and to its various neighborhoods. Carmel is noted for its environmental amenity, which trees help create. To come home to a green and shaded community establishes a powerful sense of place.

Trees establish visual harmony and continuity along the City's streets. The experience of driving, which is such a large part of the experience of Carmel residents, is more pleasurable along tree-lined streets. If a single tree is a thing of beauty, a well-designed street of trees can be a striking kinetic experience. Distinctive plantings on major streets also help orient drivers, making the City more "imageable" and therefore easier to navigate.

Trees enrich the aesthetic experience of the City, adding pleasing shapes, colors, fragrance, texture, scale and seasonal change. The beauty which trees add to any landscape is especially appreciated in urban settings, where the most people live and work and where environmental amenity is often hardest to find.

Trees soften and screen urban development. Combined with good planning and design, they are effective healers of the visual environment, helping to meld diverse urban structures and uses with a green unity and adding a natural dimension to the City's growth over time.

Trees help diffuse noise. Dense foliage helps break up the sound waves from traffic and other noises, and renders them less intrusive by visually screening their source.

Trees help increase and stabilize property values. Realtors report that trees increase residential property values from 7 to 20 percent. Surveys in Indiana identify mature trees as the most desired amenity in home sales. Commercial districts, as well, are strengthened by the enhanced image trees provide. The economic return to the City in the form of property, sales and transfer taxes is substantial.

Trees enhance people's sense of connection to nature and history. Emotionally and symbolically, trees represent people's relation to that which is larger than them. They allow us to experience the natural world in tangible form for which we feel responsible. Since trees, like people, grow and change through time, we identify with them. And since they often live longer than we do, they link us to times beyond our own, spanning past and future generations. In short, trees become part of our personal environment and as such have an important psychological value, enriching people's passage through time as well as space.

Trees enhance civic pride and involvement. Tree planting programs allow citizens to participate in creating a city they can be proud of.

Trees provide shade and help cool "urban heat islands", reducing energy costs and consumption. During the summer, a shade tree may prevent 80 to 90 percent of the sun's rays from reaching the ground. The daily moisture transpired from one large tree can have the cooling effect of five average room air conditioners running 20 hours a day. One study showed that air in a two-acre oak forest was 7 to 9 degrees cooler than air above a nearby grass fairway and 37 to 39 degrees cooler than an asphalt parking lot.

Trees moderate wind. The funneling of wind by City buildings and its strength over large paved areas can be partially broken by plantings. A 20-mph wind can be cut to 5-mph by a loose screen of trees.

Trees absorb carbon dioxide, counteracting the global "greenhouse effect". Photosynthesis fixes carbon in the biomass of a tree, where it stays sequestered as long as the tree lives. In this way, an average tree captures nearly half a ton of CO_2 over the first 30 years of its life. Worldwide planting efforts might therefore give our species the "breathing room" it needs to drastically reduce fossil fuel emissions before the atmospheric build-up of carbon dioxide throws the global climate system further out of control.

Trees produce oxygen and filter airborne particles, helping to reduce air pollution. A tree's production of oxygen replenishes the atmosphere and dilutes pollution. Airborne particulate pollution is also trapped on the surface of leaves, which act as significant "scrubbers" or filters- since the surface area of a tree may be a thousand times the surface area of the ground beneath it. In addition, the heightened humidity around plants condenses on particles and causes them to settle out in a process called "air washing". Some studies even indicate that plants directly absorb certain pollutants like sulfur dioxide and nitrogen dioxide.

Trees can help reduce soil erosion and surface runoff, leading to a steadier and cleaner supply of water. Trees protect soil by breaking the fall of raindrops, absorbing water through their roots, covering the ground with protective humus, slowing runoff, and knotting the soil with roots. On the other hand, a square mile of land stripped for development may lose 25,000 to 50,000 tons of soil in a year. The resulting sediment can drastically reduce water quality. Moreover, the slow release of water from forested lands gives way to wasteful runoff and flooding, followed by parched drought conditions.

Trees provide habitat for birds and other wildlife. Trees are a city's prime medium for attracting wildlife. A single oak, for example, can provide home and food for as many as 300 species of insects, which in turn provide food for numerous species of birds.